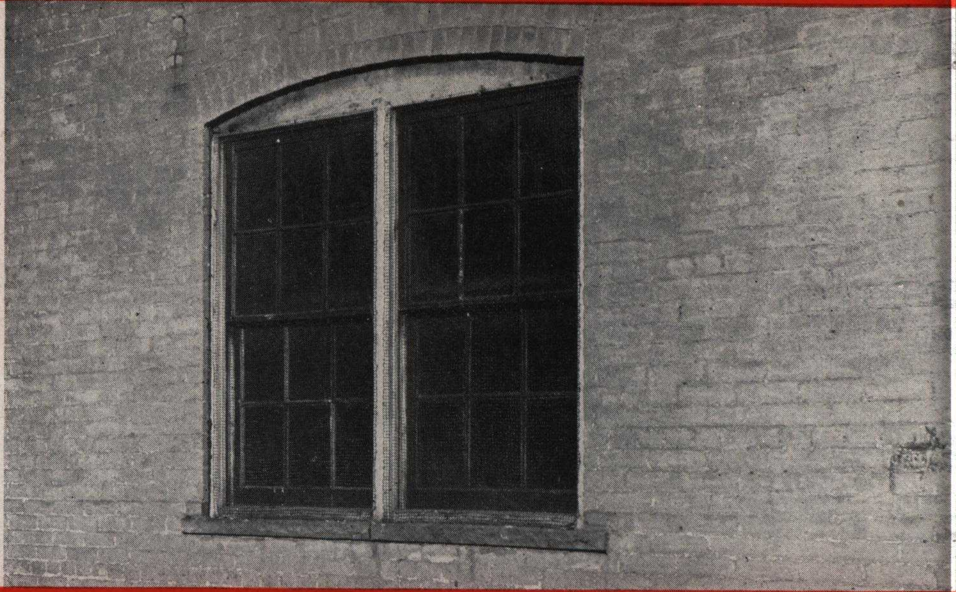
Rx for THE IMPROVEMENT OF BUILDINGS

"Daylight with Insulux"

Insulux Products Division
Owens-Illinois Glass Company - Toledo 1, Ohio

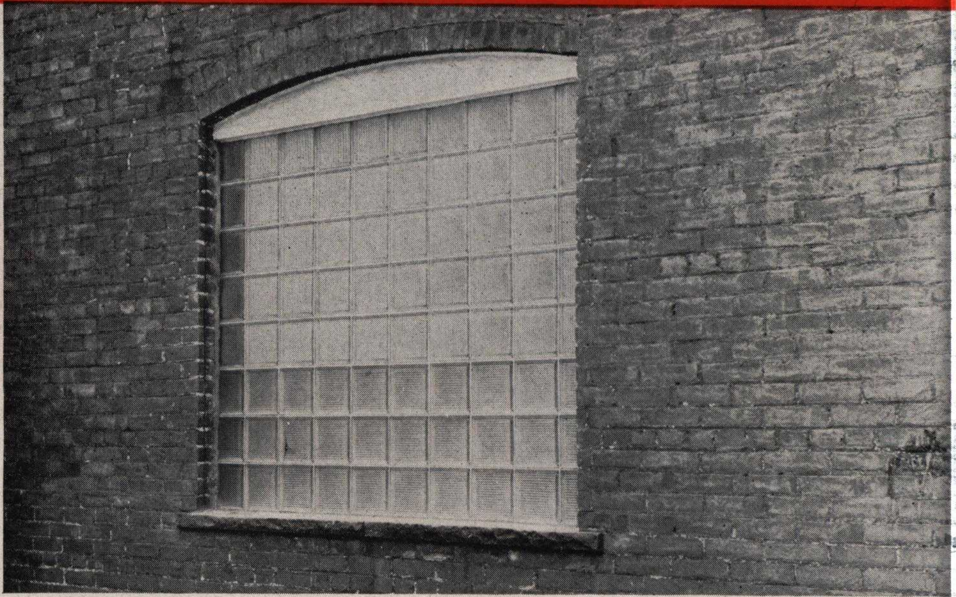
DO YOU HAVE THIS PROBLEM?

Windows Which Need Replacement



IT CAN BE SOLVED THIS WAY.....

Install a Modern Insulux Glass Block Panel



Find out how to do it . . . . .

Check the Type of Construction Found in Your Building on the attached Business Reply Card and mail it. In a short time you will receive a packet containing construction details and drawings showing just how Insulux Glass Block panels could be installed in your building. If you would like to have information on all types of construction, just check each line and you will receive the complete file.

Insulux Products Division
Owens-Illinois Glass Company
Toledo 1, Ohio

Gentlemen:

Your offer is accepted. Please send me data on how Insulux Glass Block panels can be installed in our building. We wish to consider replacing:

☐ Metal Windows in 12″ Brick Walls
☐ Metal Windows in 8″ Brick Walls
☐ Wood Windows in 12″ Brick Walls

HECKER,
CHAMPAIGN, ILL.

If windows are required in Glass Block panel, check here ☐.

It is understood that we incur no obligation in making this request.

NAME____________________

TITLE____________________

COMPANY____________________

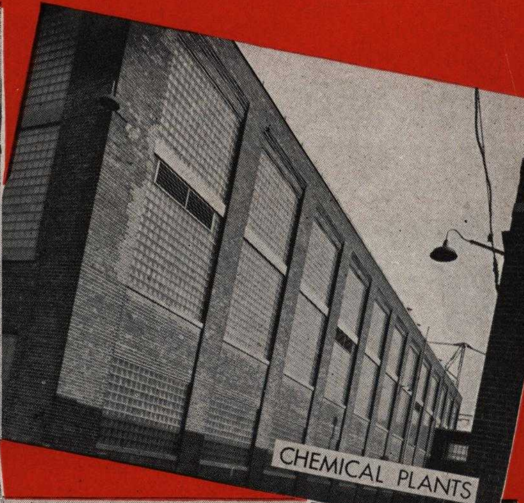
CITY____________ STATE____________

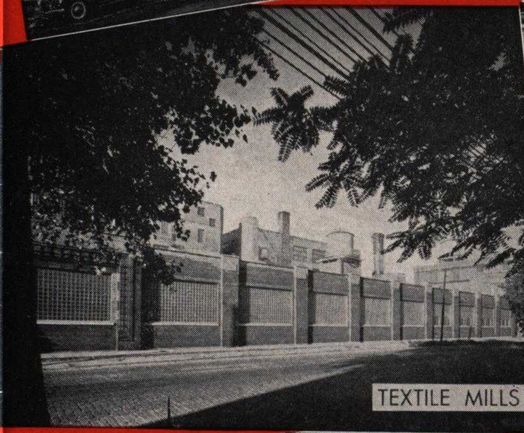
COPYRIGHT, 1945 OWENS-ILLINOIS GLASS CO.

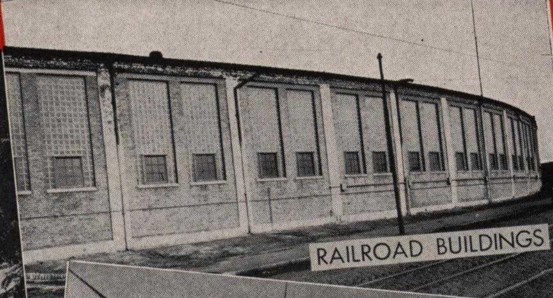
BUILDINGS OF EVERY TYPE ACQUIRE RENEWED USEFULNESS WITH THE INSTALLATION OF INSULUX GLASS BLOCK.....

BAKERIES

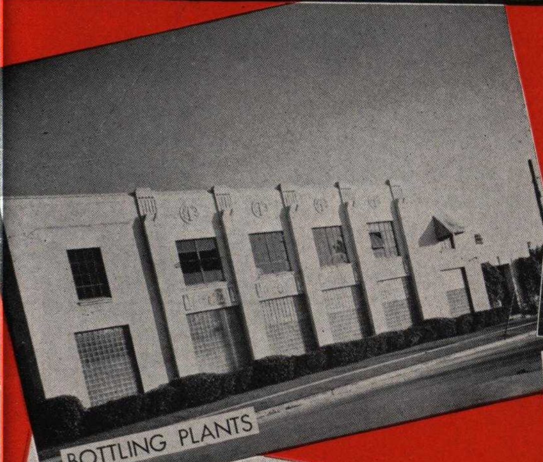
LEATHER FACTORIES

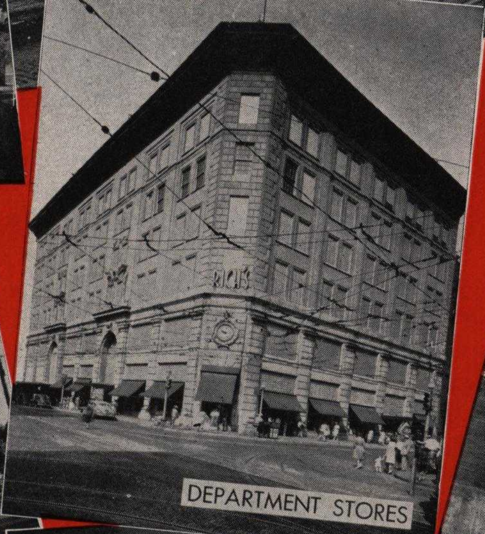

CHEMICAL PLANTS


TEXTILE MILLS


RAILROAD BUILDINGS

DAIRIES


BOTTLING PLANTS


DEPARTMENT STORES

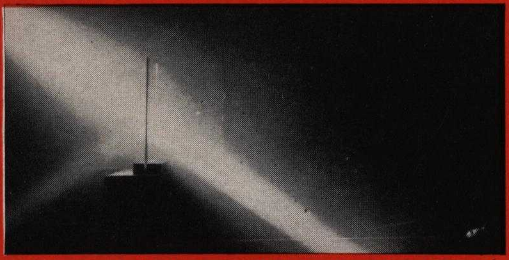
PAPER MILLS

LAUNDRIES

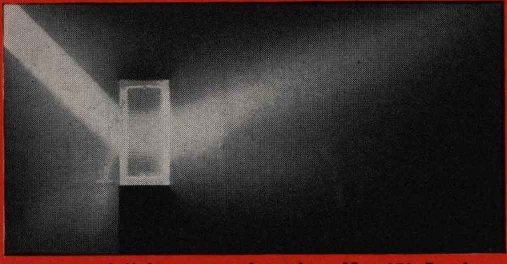
FLOUR MILLS

MEAT PACKING PLANTS

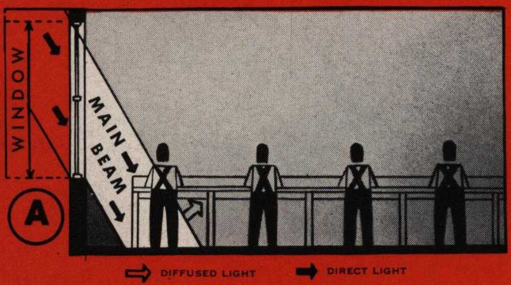
ADVANTAGES OF INSULUX GLASS BLOCK PANELS



A beam of light passes directly through a pane of clear glass and strikes the dark floor, which does not reflect light efficiently.

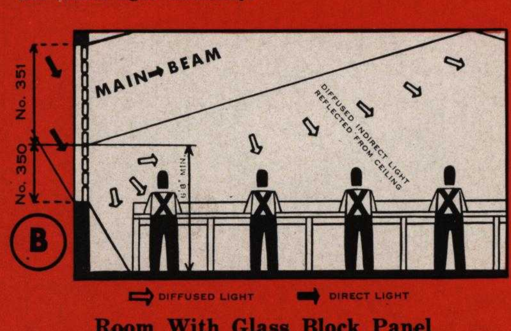


A beam of light passes through a No. 351 Insulux Block and as it emerges it is bent upward to the light colored ceiling which is an efficient light reflector.



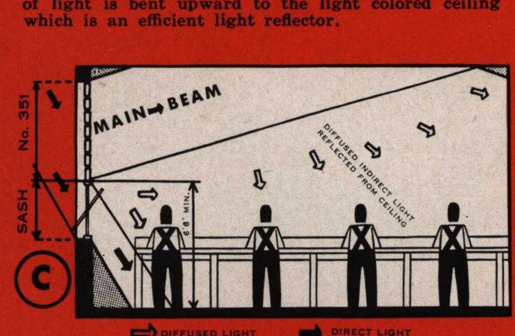
Room With Ordinary Windows

This room is daylighted with conventional windows. The main beam of light strikes the floor which does not reflect light efficiently.



Room With Glass Block Panel

This Glass Block panel is made up of No. 350 "No Glare" Block from the sill to 6′ 8″ above floor level and of No. 351 Light Directional Block from 6′ 8″ above floor level to top of the panel. The main beam of light is bent upward to the light colored ceiling which is an efficient light reflector.



Combination of Glass Block and Windows

This combination panel is made up of windows from the sill up to 6′ 8″ above floor level, and of No. 351 Light Directional Block from 6′ 8″ above floor level to top of panel. The main beam is reflected deep into the room and the windows permit vision of the outdoors.

TRANSMISSION OF LIGHT

Insulux Glass Block are manufactured in three sizes and in a number of face designs which are divided into three general classifications: First, All-Purpose Designs, Second, Decorative Designs which are used chiefly for interior partitions and for decorative motifs in exterior walls, and Third, Functional Designs which are widely used in industrial buildings because they eliminate the use of shades by reducing glare from direct sunlight and because they distribute and diffuse the light more evenly throughout the room.

The No. 350 No Glare Block

One of these functional blocks is known as Insulux No. 350. It is designed to eliminate excessive glare from direct sunlight and may be used throughout an entire panel without shading devices. The block transmits well-diffused light with a considerable degree of uniformity throughout the day regardless of sun positions. It rejects the too intense light when the sun is directly opposite the panel and accepts a greater amount of light than the ordinary block when the sun is at sharp angles to the panel. This block is recommended for use on east, west and south exposures for rooms of moderate size.

The No. 351 Light Directional Block

This block is also a functional type and is for use in panels on east, west and south exposures where more light is needed deep in the room than is obtained by the No Glare No. 350. This block is manufactured with prism structures on both interior faces, so designed that the major portion of the light entering the block is directed upward to the ceiling. The average ceiling, being light in color, reflects the light down onto the working surface.* It is recommended that this block be used above eye level (6′8″ above the floor) and another block such as the No. 350 be used below it. When it is so used, excessive glare is eliminated, shades are unnecessary and highly desirable indirect lighting with a minimum of shadows is obtained.

The photographs above show a beam of light passing through a piece of window glass and the same beam passing through one of these light directional blocks. Diagrams A, B and C compare the effect of direct light through windows and indirect light through prismatic blocks in an average factory room.

Benefits of Improved Light Distribution

Properly diffused daylight of sufficient intensity is an extremely efficient working light. Workers in rooms equipped with Glass Block panels made up of proper Light Directional Designs will notice these three chief benefits:

1. More uniform light intensity throughout the day.
2. More even light distribution throughout the room.
3. Elimination of objectional glare and reduction of solar heat.

Other Insulux Glass Block Designs

See pages 14 and 15 for descriptions and dimensions of the principal designs of Insulux Glass Blocks. A complete engineering service is available to guide you in selecting the proper blocks or combination of blocks with which to replace the windows in your building.

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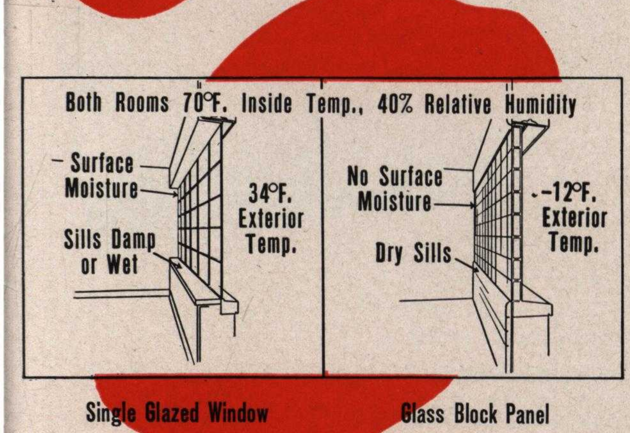
*(To get full benefit from this light-directing block, ceilings must be painted with a paint of good light reflective characteristics.)

ADVANTAGES OF INSULUX GLASS BLOCK PANELS

SAVE FUEL

The high thermal insulation value of an Insulux panel, which is only 3⅞″ thick, is approximately the same as 8″ of brick plastered or 16″ of concrete and permits the use of large light transmitting areas without the excessive heat loss or solar heat gain experienced with ordinary windows. This advantage indicates that a building in which ordinary single glazed windows are replaced with Insulux Glass Block panels, will be heated with a reduced consumption of fuel. The conductivity factor for glass block is .49 as compared with the factor of 1.13 for single glazed windows. The insulation value conserves fuel in winter and makes for a more comfortable building in summer.



Single Glazed Window

Glass Block Panel

REDUCTION OF CONDENSATION

Due to the high insulating value of Insulux Glass Block, condensation will not form on the room side of the glass block panel until the outside air has reached a much lower temperature than that which produces condensation on a single glazed window. This advantage is clearly demonstrated in the sketch at the left showing the great margin of protection against condensation under the stated conditions, on the room side surface of a glass block panel. The reduction of condensation is of great importance to industries where the manufacturing processes followed, produce or require a condition of exceptional humidity.

REDUCTION OF MAINTENANCE

Insulux Glass Block panels require no painting, and no materials used in the construction of a panel are subject to rapid deterioration. The hard surface of the block has the natural permanence and durability of glass. Janitor service required is an absolute minimum. Should a block become damaged through an accident, it may be removed and replaced. Insulux Glass Block are strong and are not easily damaged. Laboratory tests have been conducted to test the elasticity of Insulux panels under conditions comparable to, or in excess of, wind pressures during a tropical storm. Panels of normal size proved to be entirely elastic under repeated loadings within a pressure of 40 pounds per square foot which corresponds to a wind velocity of 115 miles per hour.

SANITATION

Plants connected with processing and packing foods as well as others where extreme cleanliness and sanitation are important will recognize that rooms equipped with Insulux Glass Block panels are easier to keep clean than those equipped with ordinary windows. Insulux Glass Block panels are completely sealed and permit no infiltration of outside air with its burden of dust and dirt. Keeping glass block panels clean requires little effort.

THE USEFULNESS OF THESE BUILDINGS HAS BEEN PROLONGED WITH THE INSTALLATION OF INSULUX GLASS BLOCK

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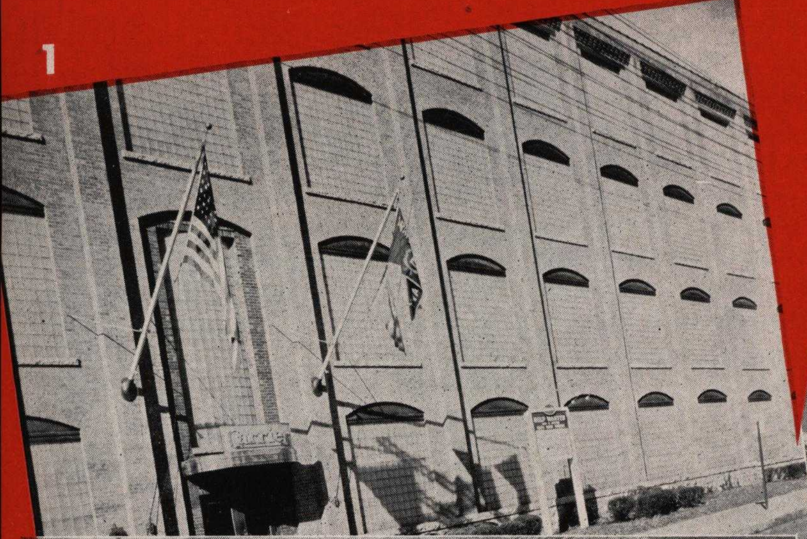

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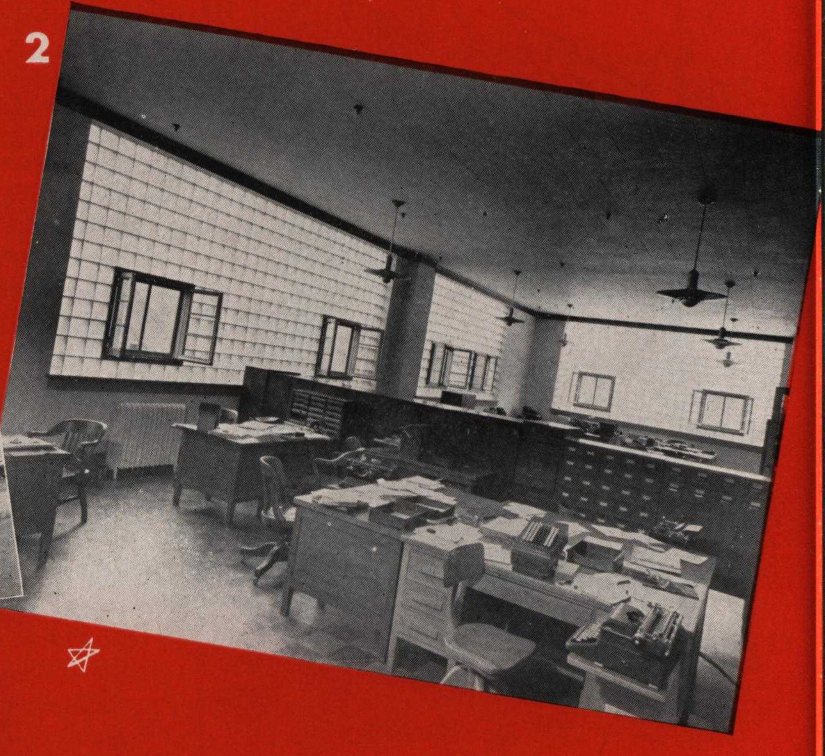

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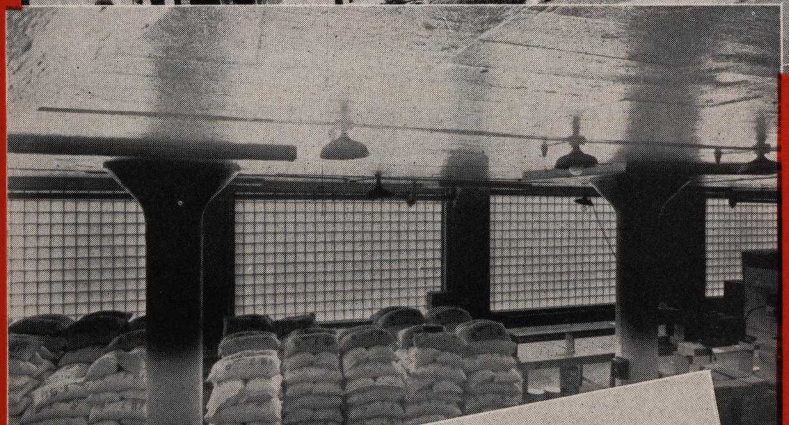

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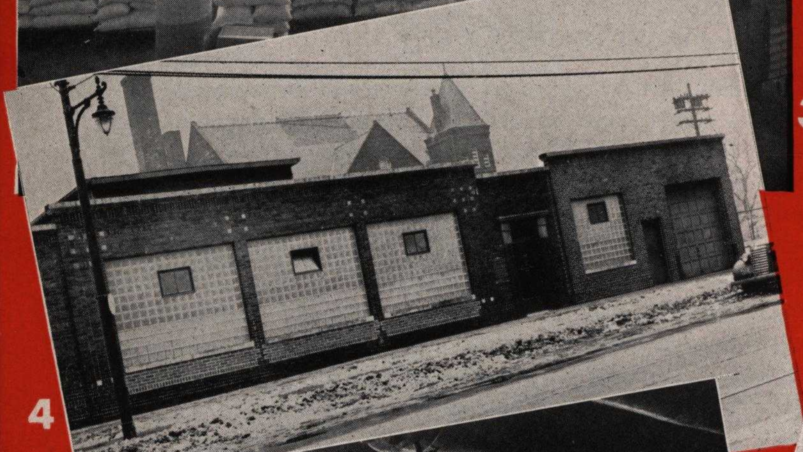

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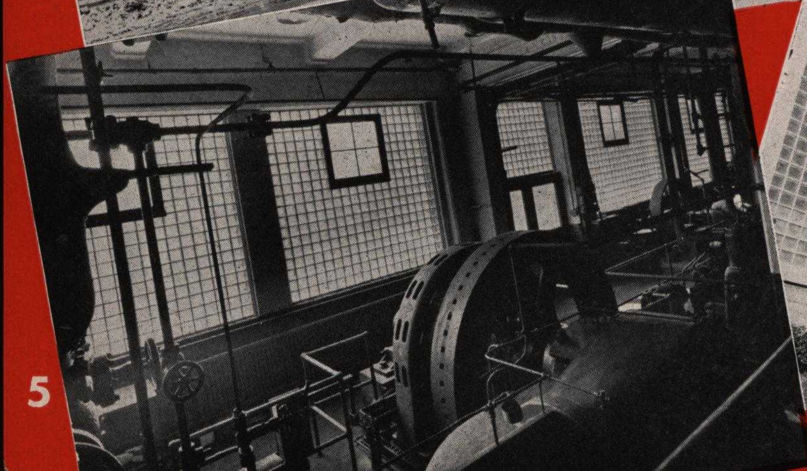

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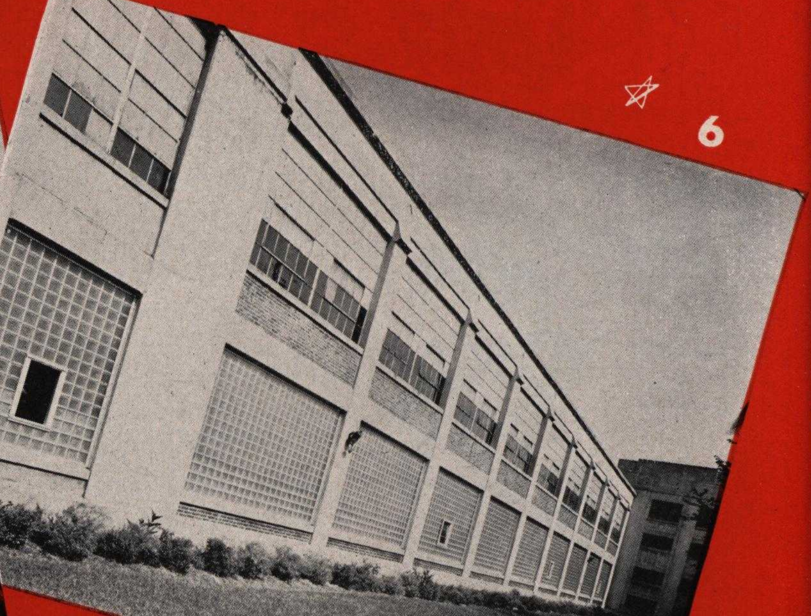
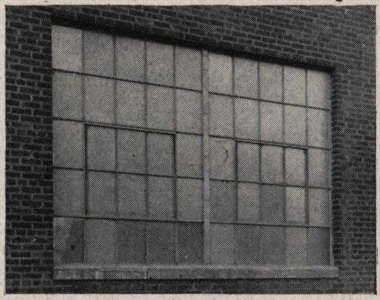


1—Carrier Engineering Company, Syracuse, N. Y.
2—Kent-Owens, Machine Co., Toledo, Ohio
3—J. Frank Shellenberger Co., Philadelphia, Penn.
4—Almetal Universal Joint Co., Cleveland, Ohio
5—National Ice & Fuel Corp., Chicago, Ill.
6—Dixie Mercerizing Co., Chattanooga, Tenn.

AN EASY WAY TO PROVE THE ADVANTAGES OF INSTALLING INSULUX GLASS BLOCK . . .

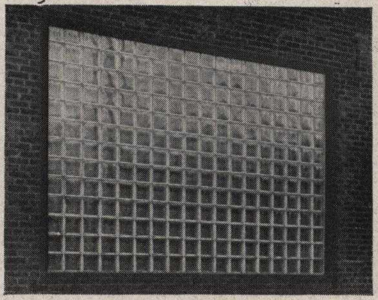
Step No. 1: Select a window opening in your plant for a test installation.

Just pick out a typical window located in a room which will give you ample opportunity to check on the advantages of an Insulux Glass Block panel. Write to us so that one of our field men can recommend the proper block to use. Every effort will be made to help you make an efficient test, and our representative will rely on the results of the test to influence your decision with regard to replacing other windows with Insulux Glass Block panels.



Step No. 2: Replace it With a Panel of Insulux Glass Block.

Call your favorite contractor or turn the job over to your plant maintenance crew. Complete instructions will be furnished to enable them to proceed correctly. Have them tear out the old windows and install a panel of Insulux Glass Block as recommended by our representative. For a pictorial explanation of how Insulux Glass Block panels are installed, see page 11. All of the accessory materials such as expansion strips, asphalt emulsion are available with the Insulux Glass Block.

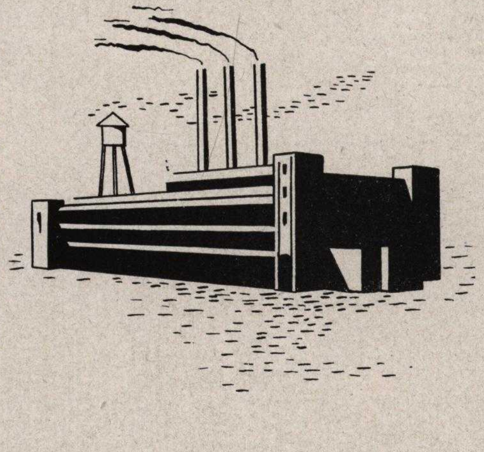


Step No. 3: Check the Advantages as Listed on Pages 4 and 5.

✓ **Better Light Transmission**
✓ **More Uniform Light**
✓ **Conservation of Fuel**
✓ **Reduction of Condensation**
✓ **Reduction of Maintenance**
✓ **Cleanliness and Sanitation**

Step No. 4: Install Insulux Glass Block Panels Throughout Your Plant.

As soon as you have had enough time to determine that your test installation confirms the advantages in which you are interested, you will be anxious to proceed with a complete installation. This can usually be done by a crew moving from window opening to window opening with a minimum of interference with your production. When budgetary problems have to be considered, the installation of Insulux Glass Block panels can be made, floor by floor, or by other sectional divisions in order that the expense may be distributed over more than one accounting period.



INSULUX GLASS BLOCK PANELS HAVE REPLACED THE WINDOWS IN TH

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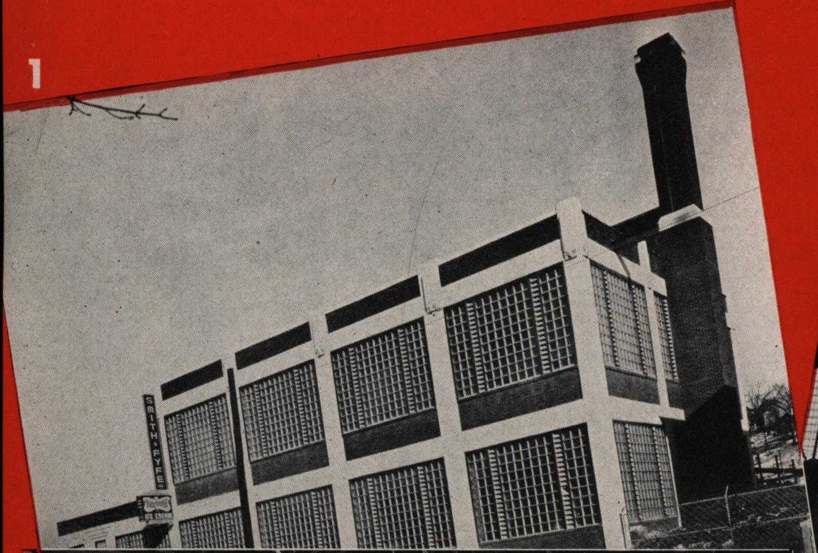

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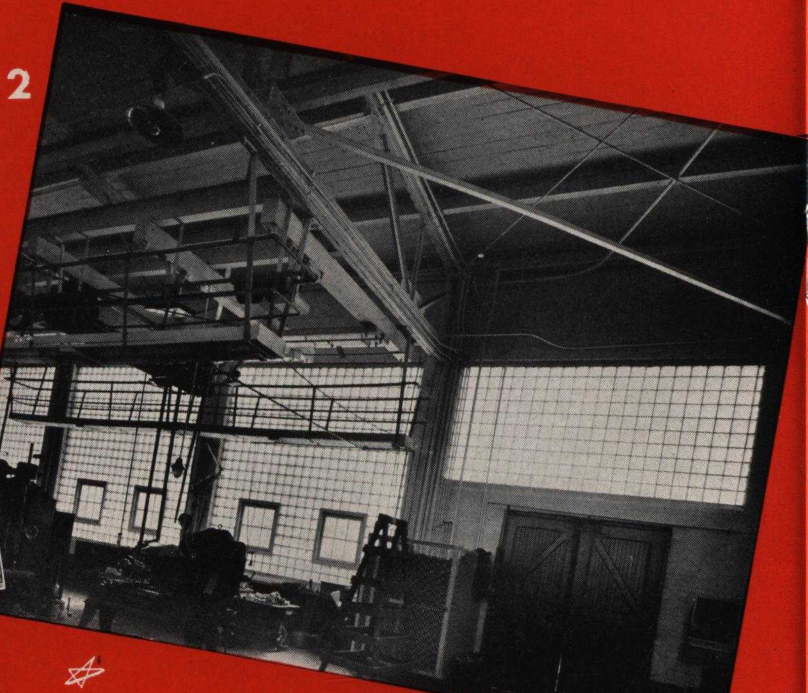

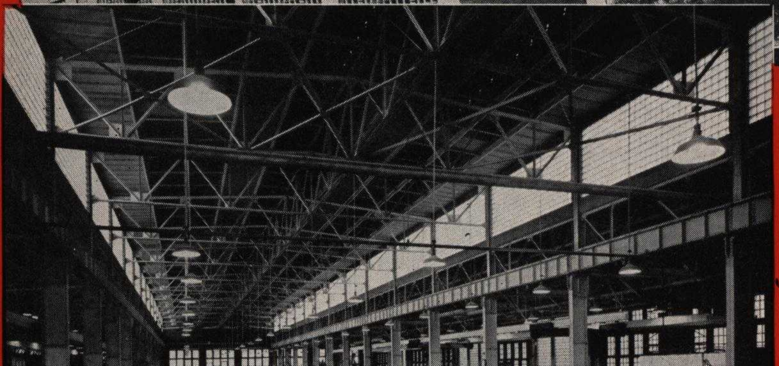

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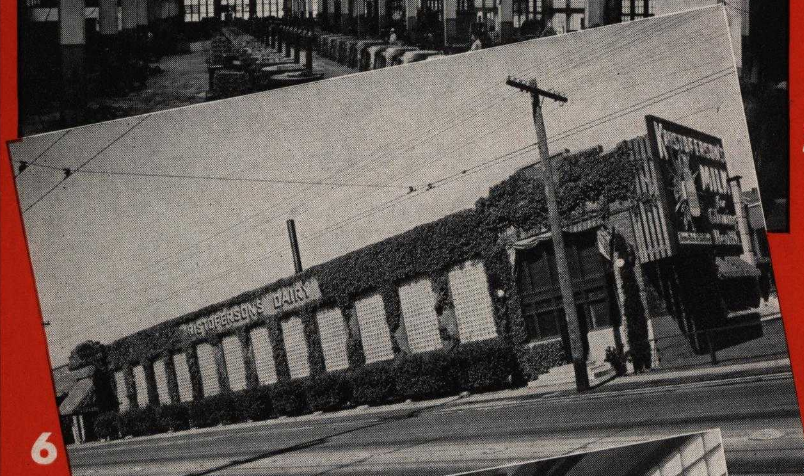
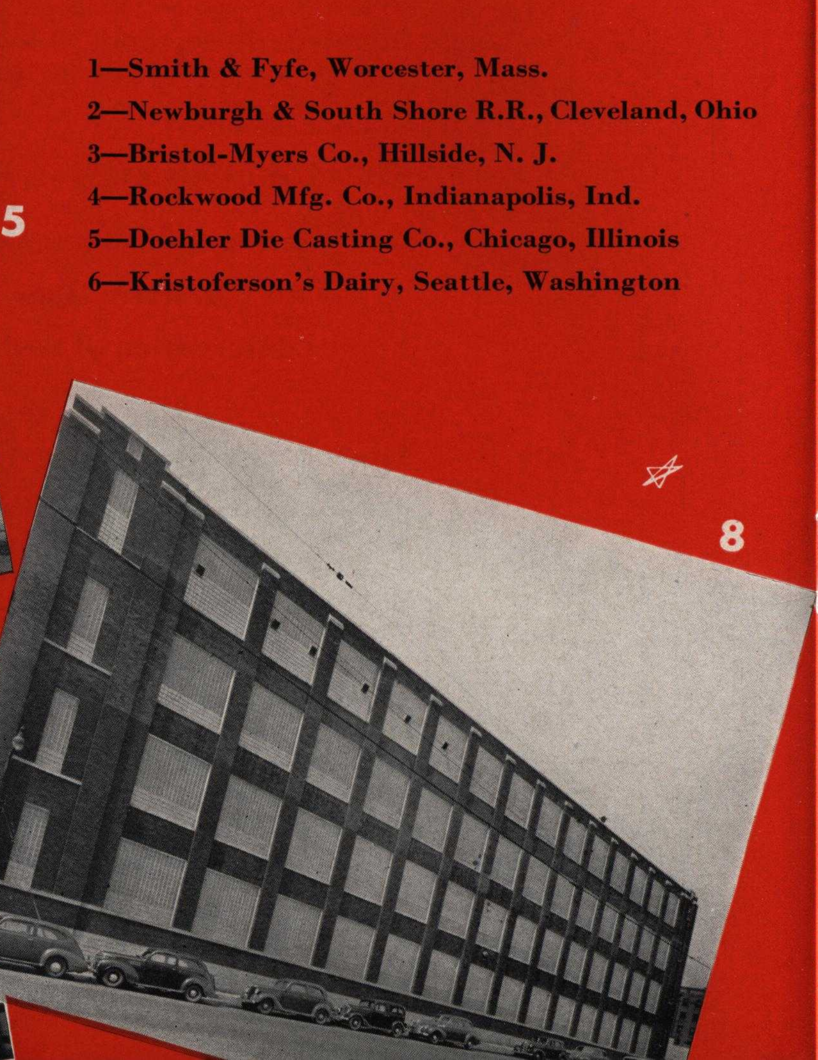


1—Smith & Fyfe, Worcester, Mass.
2—Newburgh & South Shore R.R., Cleveland, Ohio
3—Bristol-Myers Co., Hillside, N. J.
4—Rockwood Mfg. Co., Indianapolis, Ind.
5—Doehler Die Casting Co., Chicago, Illinois
6—Kristoferson's Dairy, Seattle, Washington

8



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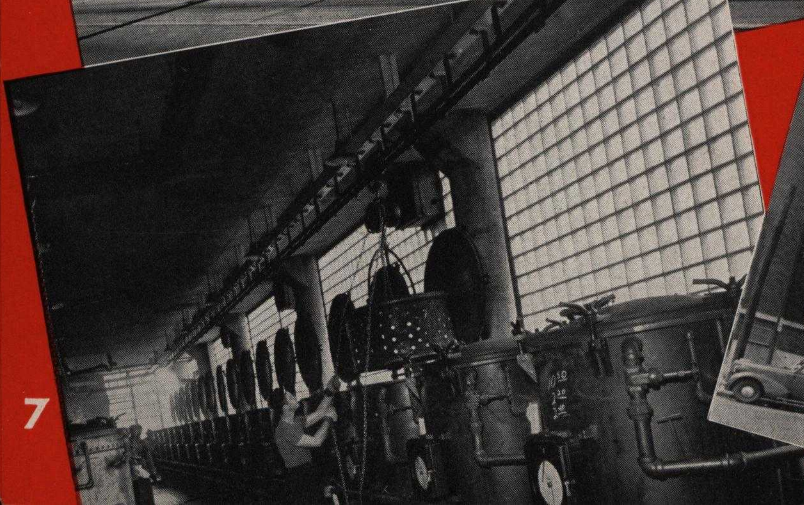
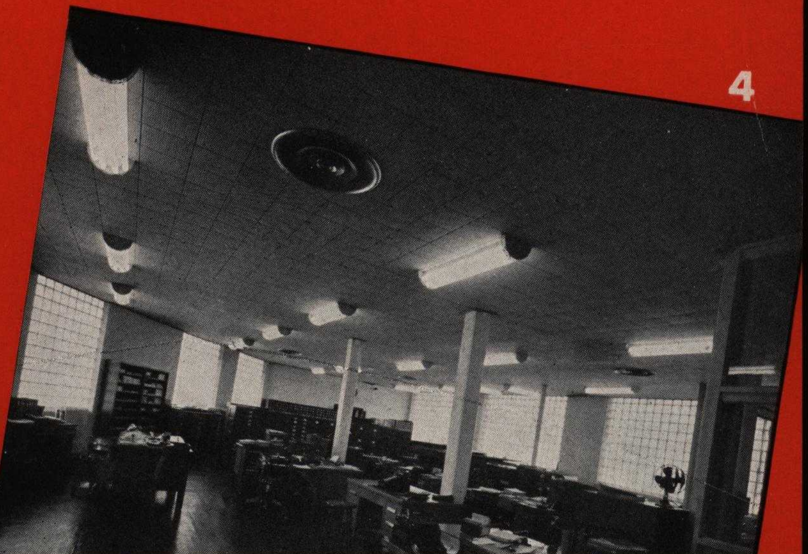


ESE TWELVE BUILDINGS, THUS ADDING TO THEIR BEAUTY AND UTILITY

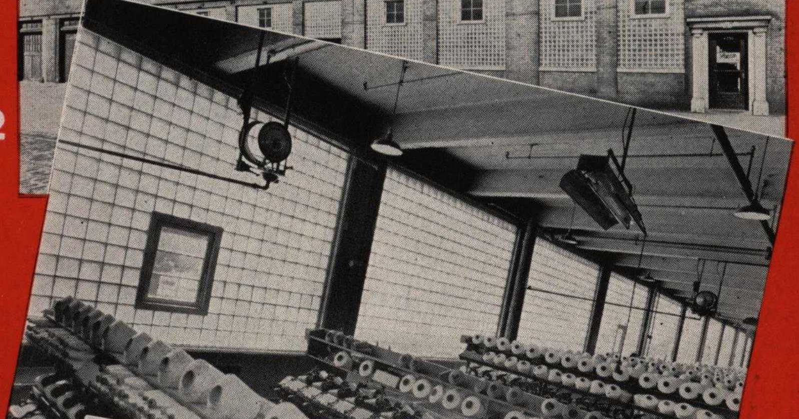
3



4

12

7—John Morrel and Company, Ottumwa, Iowa
8—Davenport Hosiery Mills, Chattanooga, Tenn.
9—American Flour, Inc., Newton, Kansas
10—Excelsior Leader Laundry, St. Louis, Mo.
11—Dixie Mercerizing Co. Chattanooga, Tenn.
12—National Ice & Fuel Corp., Chicago, Ill.



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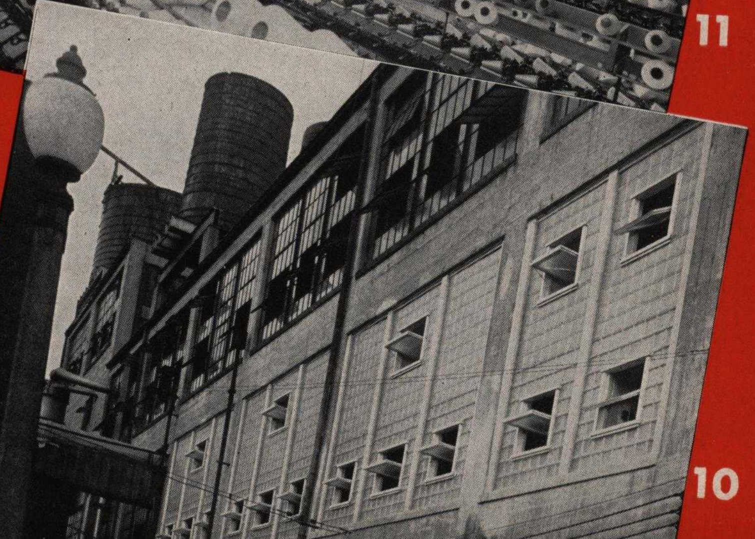

10

VISUALIZE YOUR BUILDING EQUIPPED WITH INSULUX GLASS BLOCK PANELS

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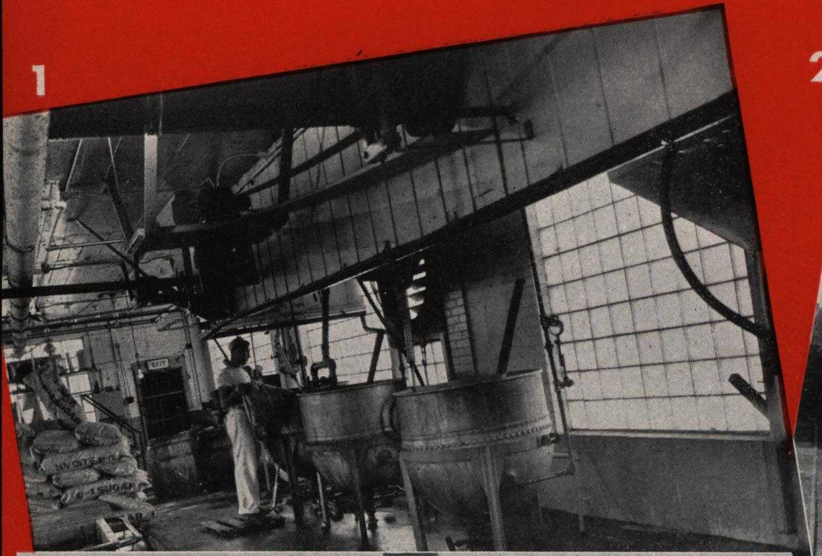

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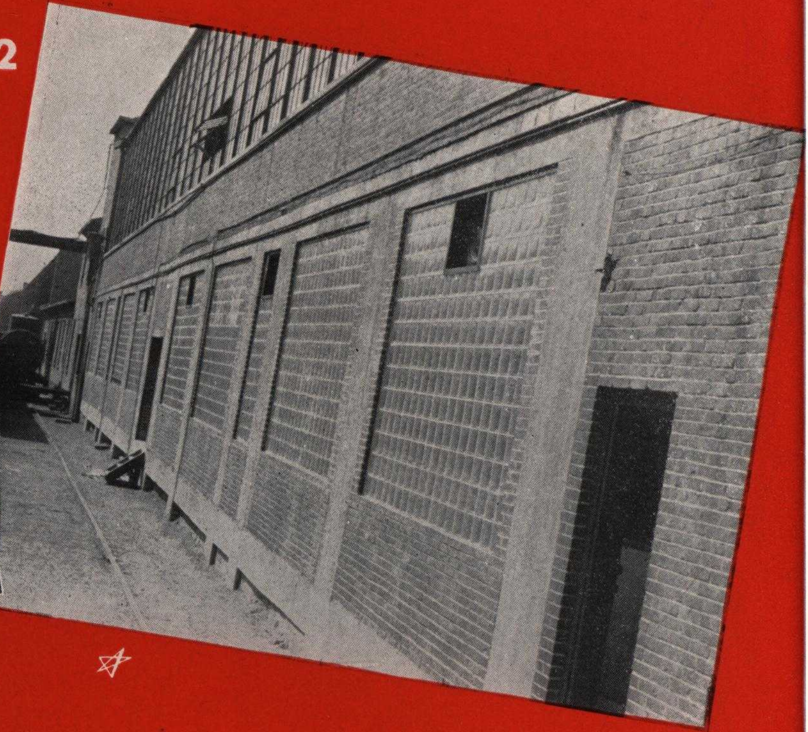

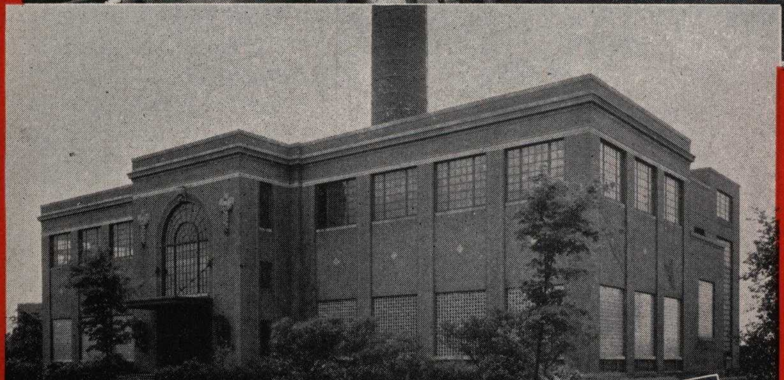

3

1—Blanke-Baer Extract & Preserving Co.
St. Louis, Mo.
2—Riegel Paper Co., Riegelsville, N. J.
3—Fairmount Pumping Station, Cleveland, Ohio
4—Handschumacher & Co., Boston, Mass.
5—Buffalo Elec. Chem. Co., Black Rock, N. Y.
6—Excelsior Leader Laundry, St. Louis, Mo.

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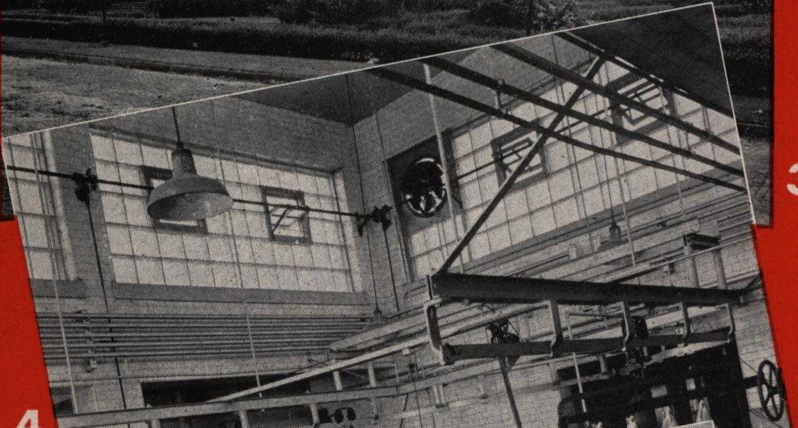

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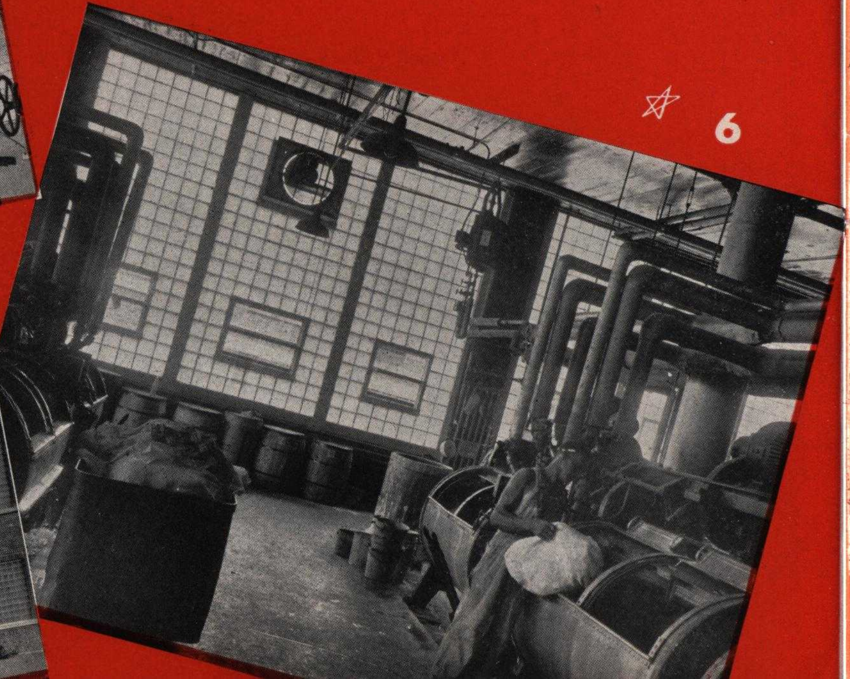

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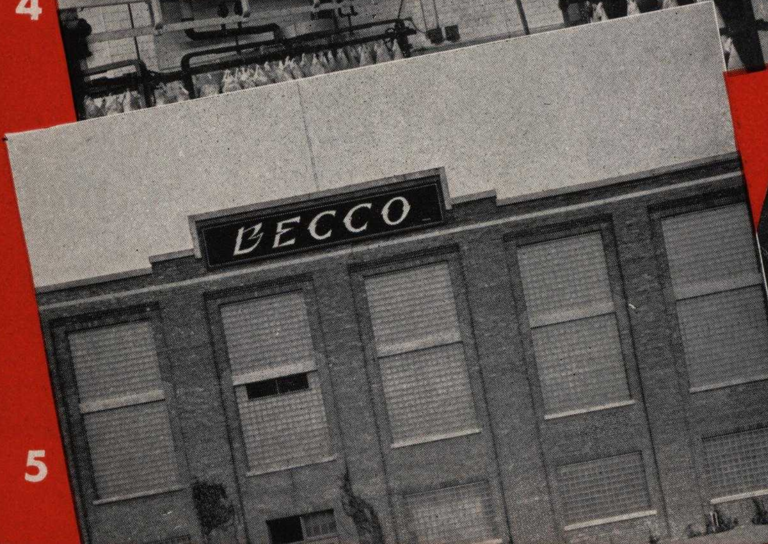


HOW TO INSTALL INSULUX GLASS BLOCK PANELS

PREPARATION

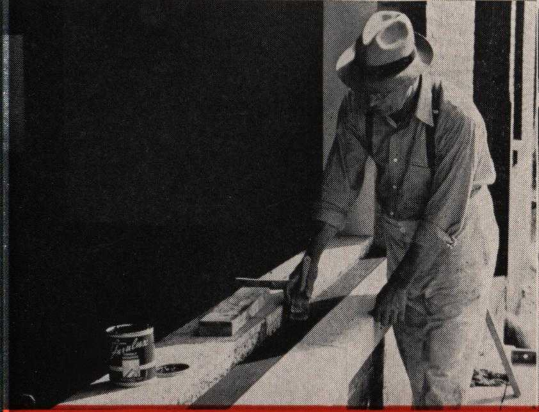
Insulux Glass Block panels can be built into all of the several types of standard wall construction, one of which is prevalent in your plant. These various types of wall construction are listed on the return post card affixed to the inside front cover of this booklet. Check the type of wall construction which exists in your building and drop the card in the mail. We will be glad to send you standard drawings illustrating in detail how Insulux Glass Block panels are installed in your type of wall. The first step, of course, calls for the removal of the old windows, whether they are wood or steel. The masonry opening must be prepared to receive the glass block panel. This work consists of cutting a chase in the masonry jambs or of otherwise adjusting the width of the opening. It may prove necessary to raise or lower the sill in order to adjust the opening to a proper size.

Recommendations providing for the proper sizes of openings for Insulux Glass Block panels will be given by Insulux field representatives. When these steps have been taken, the opening is ready for the installation of the panel. Glass Block lay up rapidly.

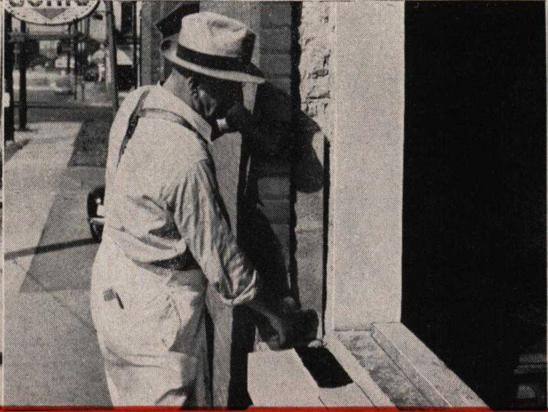
WINDOWS FOR VENTILATION

A building does not have to be artificially ventilated or air conditioned to make use of glass block. Standard sized window units are available for installation below or within Insulux Glass Block panels. Full information about these units is furnished with the construction details offered on the postal card attached to the inside front cover. Often, standard steel windows are installed beneath a glass block panel, (See Diagram C, page 4) and provide exterior vision as well as ventilation.

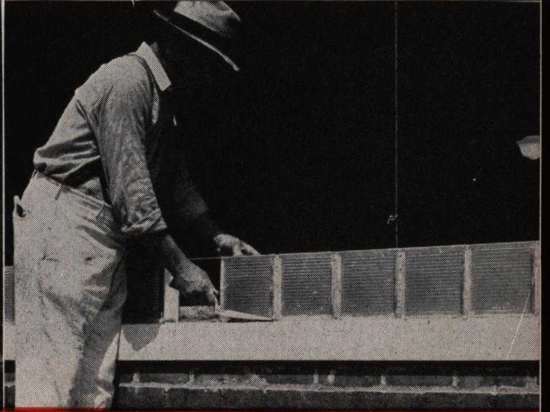
INSTALLATION IS FAST AND EASY



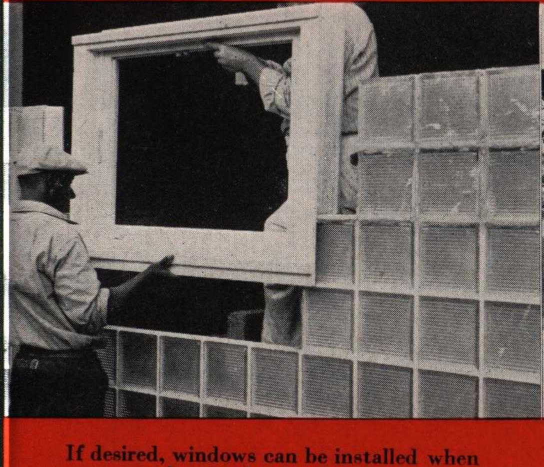
The sill is first coated with a uniform layer of Insulux Asphalt Emulsion.



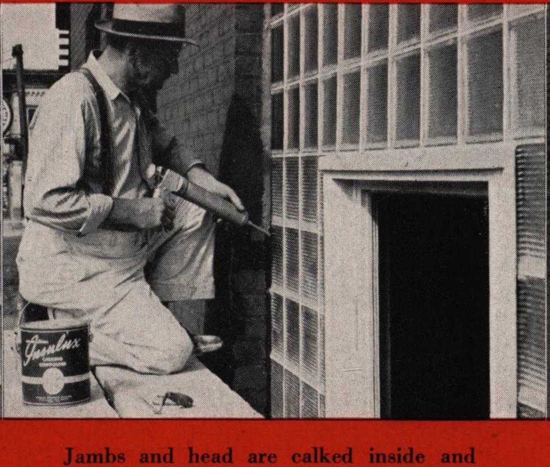
Expansion strips (4⅛x½x25") are applied continuously at jambs and head.



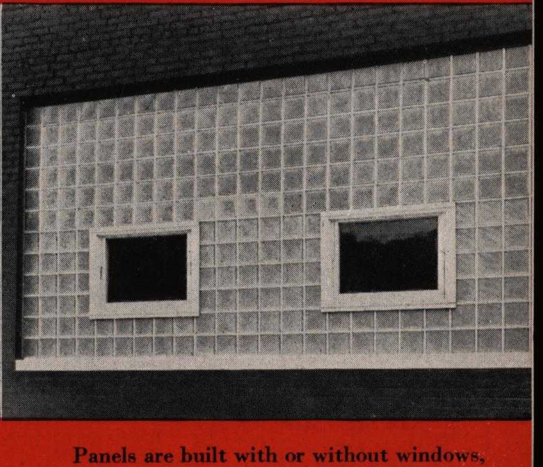
Blocks are laid plumb, true and level with all mortar joints filled completely.



If desired, windows can be installed when the panel is being laid.



Jambs and head are calked inside and out, to provide tightly sealed panels.



Panels are built with or without windows, depending upon use of the building.

SHORT FORM SPECIFICATIONS

(For detailed specifications containing more complete information, refer to Sweet's Catalog File)

MATERIALS—shall conform to the following specifications:

A. **GLASS BLOCK** shall be hollow, partially evacuated units as manufactured by the Owens-Illinois Glass Company. They shall be Insulux Design No.______ as shown on the drawings.

B. **MORTAR** shall be composed of 1 part lime, 1 part cement and 4 parts of sand. Mix to be as dry as possible and still retain its workability. Cement shall be waterproof Portland Cement complying with A.S.T.M. standards. Lime shall be hi-calcium, either hydrated or slaked and shall comply with A.S.T.M. standards. Sand shall be well graded.

C. **REINFORCING WALL TIES** shall be Insulux Ties* of the welded wire type. They are to be installed in horizontal mortar joints as follows:

No. 200 Series (5¾″ Square Block)—Every 4th Course
No. 300 Series (7¾″ Square Block)—Every 3rd Course
No. 400 Series (11¾″ Square Block)—Every Course

Ties shall run continuously, ends being lapped 6 inches. Wall ties may be omitted in panels which do not exceed 50 square feet in area and 10 feet in width— subject to local building ordinances.

D. **ASPHALT EMULSION** shall be Insulux Emulsion* or equal.

E. **EXPANSION STRIPS** shall be fibrous glass Insulux Strips.*

F. **CAULKING** shall be Insulux Caulking Compound* or equal.

G. **OAKUM** shall be of the non-staining type.

H. **WALL ANCHORS**—Where panels are not set in chases, they shall be anchored with Insulux 20 Gauge Galvanized Perforated Strips* 24″ long x 1¾″ wide.

ERECTION

I. Openings for panels are to be formed as shown on the drawings. Coat panel sill with asphalt emulsion (1x32″ thick) before laying glass block.

J. Install expansion strips where shown on drawings. They are to run continuously so that at no point will the panel edges come in direct contact with the building structure, except at sill.

K. When laying glass block, all joints are to be plumb and true and are to be filled completely with mortar. Joints shall be approximately ¼″ thick and shall be tooled to a smooth finish. Wall ties shall be installed as specified and shall be completely imbedded in the center of the mortar joint.

L. After mortar has set, ram oakum between sides of block and sides of chase as shown on the drawings and point with at least ⅜″ Mastic Caulking Compound.

M. After mortar has set, clean panels thoroughly with clear water.

ALTERNATE ANCHORAGE—Small panels may be anchored at the jambs by revising Paragraphs J and L as follows:

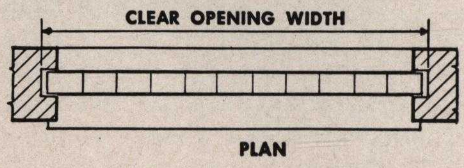
Alternate J. Cut standard expansion strips to a 2″ width and install them as shown on the drawings. Panels are to be anchored at the jambs with perforated wall anchors installed as shown on details and shall be located as frequently as wall ties. Expansion strips are to fit snugly around anchors.

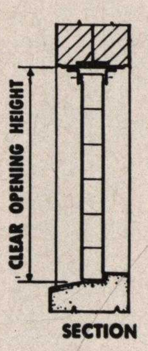
Alternate L. After panel has set, clear expansion space of all mortar and point with at least ½″ of mastic caulking material.

DIMENSION TABLE

TO OBTAIN CLEAR OPENING SIZES ADD TO BLOCK TABLE DIMENSIONS:

WIDTH—AT LEAST ¾″
HEIGHT—AT LEAST ½″ + MAX. LINTEL DEFLECTION





No. of Units	5¾″ x 5¾″ Height or Width 1/4″ joints	5¾″ x 5¾″ Height or Width 3/16″ joints	7¾″ x 7¾″ Height or Width 1/4″ joints	7¾″ x 7¾″ Height or Width 3/16″ joints	11¾″ x 11¾″ Height or Width 1/4″ joints	11¾″ x 11¾″ Height or Width 3/16″ joints
1	6″	5 15/16″	8″	7 15/16″	1′-0″	11 15/16″
2	1′-0″	11 7/8″	1′-4″	1′- 3 7/8″	2′-0″	1′-11 7/8″
3	1′-6″	1′- 5 13/16″	2′-0″	1′-11 13/16″	3′-0″	2′-11 13/16″
4	2′-0″	1′-11 3/4″	2′-8″	2′- 7 3/4″	4′-0″	3′-11 3/4″
5	2′-6″	2′- 5 11/16″	3′-4″	3′- 3 11/16″	5′-0″	4′-11 11/16″
6	3′-0″	2′-11 5/8″	4′-0″	3′-11 5/8″	6′-0″	5′-11 5/8″
7	3′-6″	3′- 5 9/16″	4′-8″	4′- 7 9/16″	7′-0″	6′-11 9/16″
8	4′-0″	3′-11 1/2″	5′-4″	5′- 3 1/2″	8′-0″	7′-11 1/2″
9	4′-6″	4′- 5 7/16″	6′-0″	5′-11 7/16″	9′-0″	8′-11 3/16″
10	5′-0″	4′-11 3/8″	6′-8″	6′- 7 3/8″	10′-0″	9′-11 3/8″
11	5′-6″	5′- 5 5/16″	7′-4″	7′- 3 5/16″	11′-0″	10′-11 5/16″
12	6′-0″	5′-11 1/4″	8′-0″	7′-11 1/4″	12′-0″	11′-11 1/4″
13	6′-6″	6′- 5 3/16″	8′-8″	8′- 7 3/16″	13′-0″	12′-11 3/16″
14	7′-0″	6′-11 1/8″	9′-4″	9′- 3 1/8″	14′-0″	13′-11 1/8″
15	7′-6″	7′- 5 1/16″	10′-0″	9′-11 1/16″	15′-0″	14′-11 1/16″
16	8′-0″	7′-11″	10′-8″	10′- 7″	16′-0″	15′-11″
17	8′-6″	8′- 4 15/16″	11′-4″	11′- 2 15/16″	17′-0″	16′-10 15/16″
18	9′-0″	8′-10 7/8″	12′-0″	11′-10 7/8″	18′-0″	17′-10 7/8″
19	9′-6″	9′- 4 13/16″	12′-8″	12′- 6 13/16″	19′-0″	18′-10 13/16″
20	10′-0″	9′-10 3/4″	13′-4″	13′- 2 3/4″	20′-0″	19′-10 3/4″
21	10′-6″	10′- 4 11/16″	14′-0″	13′-10 11/16″	21′-0″	20′-10 11/16″
22	11′-0″	10′-10 5/8″	14′-8″	14′- 6 5/8″	22′-0″	21′-10 5/8″
23	11′-6″	11′- 4 9/16″	15′-4″	15′- 2 9/16″	23′-0″	22′-10 9/16″
24	12′-0″	11′-10 1/2″	16′-0″	15′-10 1/2″	24′-0″	23′-10 1/2″
25	12′-6″	12′- 4 7/16″	16′-8″	16′- 6 7/16″	25′-0″	24′-10 7/16″
26	13′-0″	12′-10 3/8″	17′-4″	17′- 2 3/8″	26′-0″	25′-10 3/8″
27	13′-6″	13′- 4 5/16″	18′-0″	17′-10 5/16″	27′-0″	26′-10 5/16″
28	14′-0″	13′-10 1/4″	18′-8″	18′- 6 1/4″	28′-0″	27′-10 1/4″
29	14′-6″	14′- 4 3/16″	19′-4″	19′- 2 3/16″	29′-0″	28′-10 3/16″
30	15′-0″	14′-10 1/8″	20′-0″	19′-10 1/8″	30′-0″	29′-10 1/8″
31	15′-6″	15′- 4 1/16″	20′-8″	20′- 6 1/16″	31′-0″	30′-10 1/16″
32	16′-0″	15′-10″	21′-4″	21′- 2″	32′-0″	31′-10″
33	16′-6″	16′- 3 15/16″	22′-0″	21′- 9 15/16″	33′-0″	32′- 9 15/16″
34	17′-0″	16′- 9 7/8″	22′-8″	22′- 5 7/8″	34′-0″	33′- 9 7/8″

(*) These materials can be obtained from Insulux Distributors or from Owens-Illinois Glass Company, Toledo, Ohio. They are available for immediate shipment.

TECHNICAL DATA

THERMAL INSULATION

Tests run over the past few years by a number of nationally recognized laboratories have proven that glass block panels have a very high insulation value when compared with other types of light transmitting materials.

The above mentioned tests have been confirmed by official tests conducted by the Pittsburgh Testing Laboratory, which gives the following values for the overall coefficient of heat transfer.

TYPE OF BLOCK	STILL AIR	15 MPH WIND
Ribbed Face Block	U 0.38	U 0.46
Smooth Face Block	U 0.40	U 0.49

The above values are for panels constructed of 8-inch square block.

Tests run by other laboratories show that there is practically no difference in the thermal insulation of blocks of various sizes. Consequently the figure of 0.49 is recommended for panel use when computing heat loss for blocks of all sizes which have smooth exterior faces and 0.46 for block with ribbed exterior faces.

SURFACE CONDENSATION

Due to the high insulating value of Insulux Glass Block, condensation will not start forming on the inside surface of the glass block panel until the outside air has reached a temperature much lower than that which produces condensation on a single glazed window. See chart below.

INSIDE TEMPERATURE (Degrees F.)	COMPARISON OF OUTSIDE TEMPERATURES (Degrees F.) necessary to Produce Condensation on the Inside Surface					TYPE OF FENISTRATION
65	+28°	+37°	+45°	+50°	+56°	Windows
	−19°	+ 1°	+18°	+31°	+45°	Glass Block
70	+34°	+42°	+50°	+55°	+61°	Windows
	−14°	+ 6°	+23°	+36°	+50°	Glass Block
75	+38°	+47°	+53°	+60°	+65°	Windows
	−11°	+ 9°	+25°	+40°	+52°	Glass Block
80	+42°	+51°	+58°	+65°	+70°	Windows
	− 8°	+13°	+30°	+45°	+57°	Glass Block
INSIDE RELATIVE HUMIDITY	40%	50%	60%	70%	80%	

These outside temperatures shown for glass block apply to smooth-faced blocks (U value .49); if rib-faced blocks are used (U value .46) temperatures to produce condensation will be lower. U values given are for a wind velocity of 15 miles per hour on the outside and still air on the inside.

SOUND INSULATION

Tests conducted on glass block panels by a nationally known laboratory show that they have the sound reducing ability equal to or better than that of a commonly used non-light transmitting partition having equal weight per unit surface area. These tests show an average sound reduction factor over a range of nine frequencies of 40.7 decibels for glass blocks.

FIRE TEST

Insulux Glass Block panels, 120 sq. ft. laid up in standard specification mortar and reinforced with specification wall ties have been subjected to fire and hose stream tests. The glass blocks used in these panels were 5¾ x 5¾ x 3⅞″ Insulux Glass Blocks in designs 202, 207, 216, 217 and 230 and are approved by the Underwriters' Laboratories of Chicago, Illinois. Send for Underwriters' guide card.

HEAT GAIN THROUGH GLASS BLOCK PANELS

As a result of the latest test on the heat gain through glass block panels (*), the following data has been prepared. The table below gives the direct solar and scattered sky radiation through glass block panels for various times of the day for south, east and west exposures for different latitudes. This table also gives the total heat gain into an air conditioned space when 78 degrees is maintained indoors, resulting from the effect of both radiation and air to air transmission. These values are for expected design radiation intensity and for design outside temperature day of 95 degrees.

The resulting heat gains are averages for the smooth and ribbed face blocks tested (**) and are considered of sufficient accuracy for any of the several standard (***) designs of glass block.

HEAT GAIN THROUGH GLASS BLOCKS[1]

		SOLAR RADIATION HEAT GAIN (Direct Plus Sky) Btu per Sq. Ft. per Hour						TOTAL HEAT GAIN[2] (Solar Radiation Plus Normal Transmission) Btu per Sq. Ft. per Hour					
Side		East[3]	West[3]	South				East[3]	West[3]	South			
N. Latitude Degrees		40	40	30	35	40	45	40	40	30	35	40	45
Sun Time	Outside Temp. F												
7:00	74	65.0		1.0	2.8	3.0	5.0	61.0		–4.5	–2.0	–0.5	1.0
8:00	76	63.0	0.0	3.0	4.4	6.5	11.0	77.5		0.0	2.0	4.0	5.0
9:00	79	40.0	5.0	5.5	7.1	10.2	13.4	73.5	5.0	5.0	7.0	10.0	12.0
10:00	83	24.0	6.0	8.5	11.3	14.7	17.1	57.5	6.5	11.0	15.0	18.0	20.8
11:00	87	15.5	7.0	12.0	15.2	18.7	21.8	45.0	7.5	16.5	22.0	25.5	32.0
12:00	90	10.0	10.0	14.0	17.4	21.0	24.8	36.5	10.5	21.5	28.0	33.8	40.8
1:00	93	7.0	15.5	12.0	15.2	18.7	21.8	30.0	22.0	25.0	31.8	38.5	46.0
2:00	94	6.0	24.0	8.5	11.3	14.7	17.1	24.0	35.0	26.0	32.0	39.0	47.0
3:00	95	5.0	40.0	5.5	7.1	10.2	13.4	19.5	55.0	24.0	29.8	36.5	45.0
4:00	95	4.5	65.0	3.0	4.4	6.5	11.0	15.5	77.0	20.0	25.5	31.5	40.5
5:00	93	4.0	63.0	1.0	2.8	3.0	5.0	12.5	85.5	15.0	20.0	25.2	33.5
6:00	91	2.5	23.5	0.0	0.7	0.7	3.0	10.5	55.0	9.5	13.5	18.0	25.5
7:00	89	1.5	0.0			0.0	0.7	8.0	18.5	3.5	7.0	11.0	18.0

[1] For August 1.

[2] Inside temperature, 78 F.

[3] For east and west walls these values can be applied to all latitudes between 30 and 45 degrees N. without excessive errors.

For more complete information on the solar heat transmission through glass blocks consult the latest edition of the Heating, Ventilating and Air Conditioning Guide.

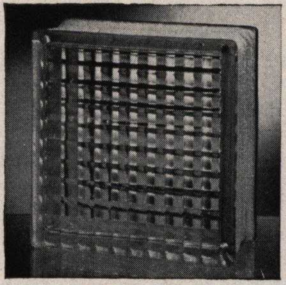
(*) Reported in the research paper Heat Gain Through Glass Blocks by Solar Radiation and Transmittance by F. C. Houghten, David Shore, H. T. Olson, and Burt Gunst (see page 264 April 1940 H.P. & A.C.).

(**) The dimensions of the blocks tested were 7¾″ x 7¾″ x 3⅞″.

(***) Values for special blocks such as No. 350, which are designed to further reduce heat gain are lower and can be obtained by writing to Owens-Illinois Glass Company, Toledo, Ohio.

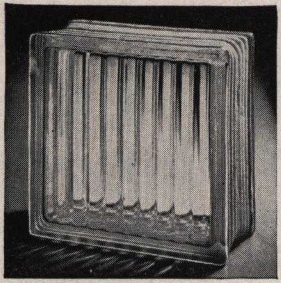
DESIGNS, SIZES AND DESCRIPTION OF

GENERAL PURPOSE AND



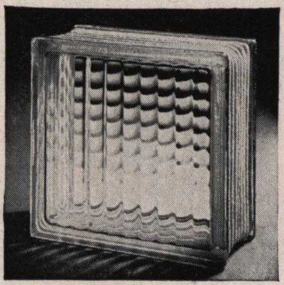
DESIGN No. 2

Design—Convex ribs carried vertically on both exterior faces and horizontally on both of the interior faces. Width of ribs for 200 series—½″; 300 series—11/16″.



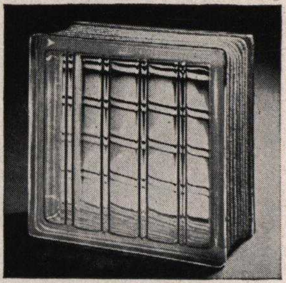
DESIGN No. 7

Design—Convex ribs carried vertically on both of the interior faces. Both of the exterior faces are smooth. Width of the ribs in the 200 series—½″; 300 series—11/16″; 400 series—1″.



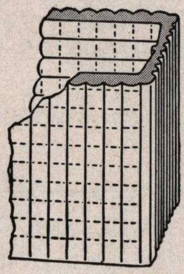
DESIGN No. 16

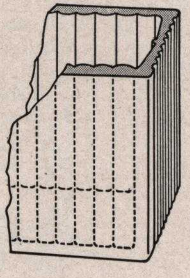
Design—Convex ribs carried vertically on one interior face and horizontally on the other. Exterior faces smooth. Width of ribs of the 200 series—½″; 300 series—11/16″; 400 series—1″.

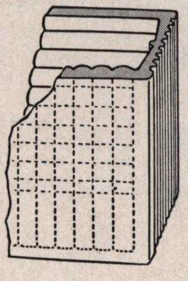


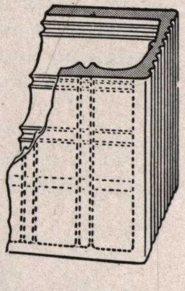
DESIGN No. 17

Design — Concave ribs on both interior faces—vertical on one, horizontal on other. Both exterior faces smooth. Width of ribs of the 200 series—1 1/16″; 300 series—1½″; 400 series—1⅝″.



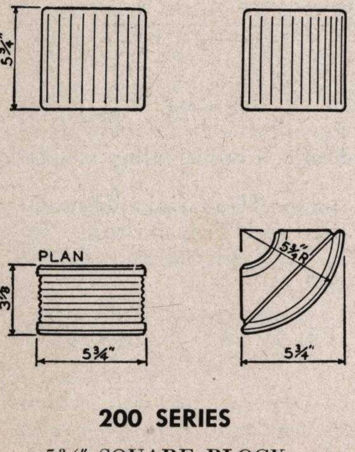






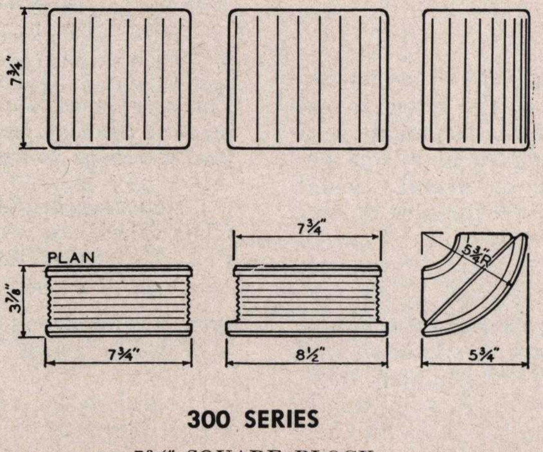
SERIES AND SIZE OF REGULAR BLOCKS	DESIGN No. 2	DESIGN No. 7	DESIGN No. 16	DESIGN No. 17
200 5¾ x 5¾ x 3⅞	202	207	216	217
300 7¾ x 7¾ x 3⅞	302	307	316	317
400 11¾ x 11¾ x 3⅞		407	416	417

All designs, shapes and sizes of Insulux Glass Block are subject to change without notice.



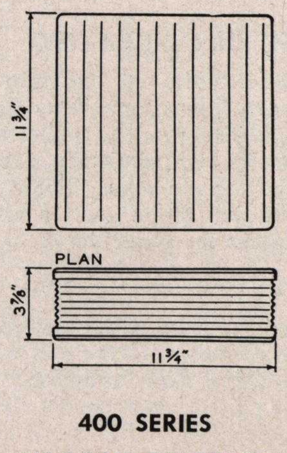
200 SERIES

5¾″ SQUARE BLOCK



300 SERIES

7¾″ SQUARE BLOCK



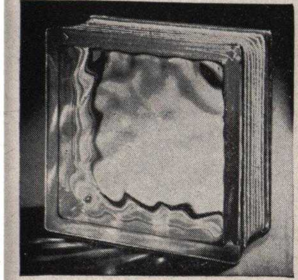
400 SERIES

11¾″ SQUARE BLOCK

OWENS-ILLINOIS INSULUX GLASS BLOCK

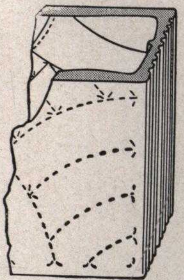
DECORATIVE BLOCKS

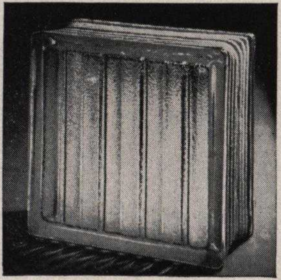
RADIAL AND CORNER BLOCKS



DESIGN No. 30

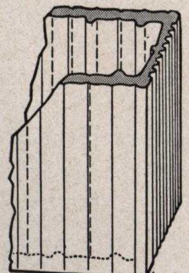
Design—Both exterior faces smooth. Interior design suggests a repeating quarter circular effect, forming continuous concentric circles in the panel.

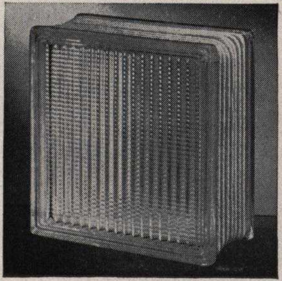




DESIGN No. 40

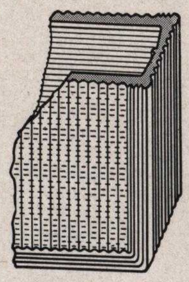
Design—Both exterior faces have 13/16″ o-gee ribs vertically. Both interior faces have etched stippled surfaces with vertical ribs spaced 1⅝″ on center.

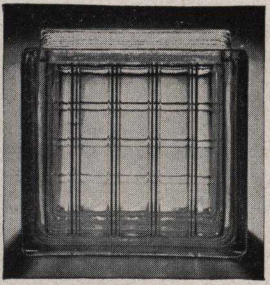




DESIGN No. 54

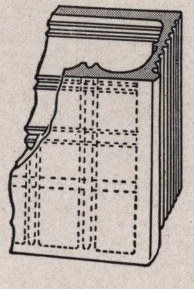
Design—Both exterior faces have ⅜″ wave ribs running vertically. The border of both faces is treated with a series of continuous prisms to prevent edge glare. Both interior faces have approximately 3/16″ concave ribs running horizontally.

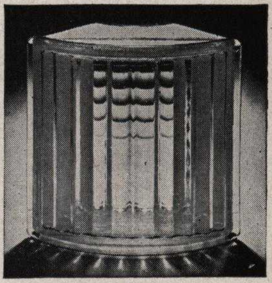




RADIAL

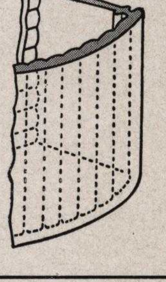
Radial block can be laid to varying radii from 2′-5″ and up. Width of long face—8½″, of short face—7¾″. Available only in design numbers listed below.





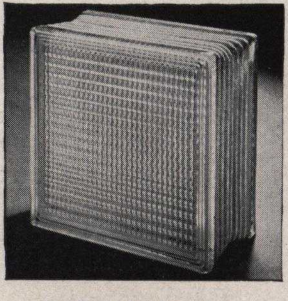
CORNER

Block to be used with No. 200 and 300 series. Height—5¾″ for 200 series and 7¾″ for 300 series. Corners conform with design of standard block as noted by number. Radius—5¾″ for both 200 and 300 series block.

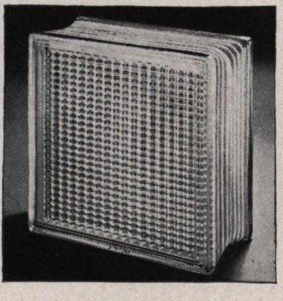


230	240			216-C 230-C	217-C 240-C
330	340	354	316-R 317-R 350-R	316-C 330-C 350-C	317-C 340-C
430	440			Use Two 200 Series Corner Blocks	

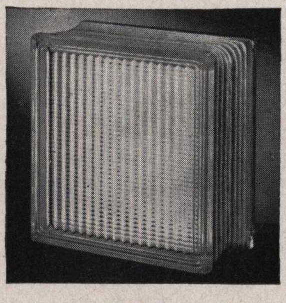
FUNCTIONAL BLOCKS



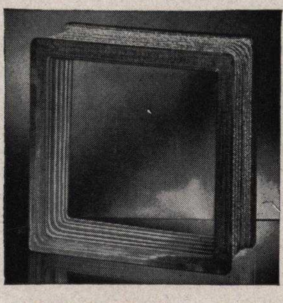
DESIGN No. 50



DESIGN No. 51



*** DESIGN No. 60**



*** DESIGN No. 70**

(These four blocks available in 8″ size only.)

The above blocks are designed to control the distribution and diffusion of light. No. 51 design has interior prisms that direct light upward.

The No. 60 design is the same as No. 54, except that it has a Fiberglas screen insert. The No. 70 design has smooth interior and exterior faces, which permit limited vision.

*NOTICE—Insulux Glass Block designs No. 60 and No. 70 are not available for the duration of the war.

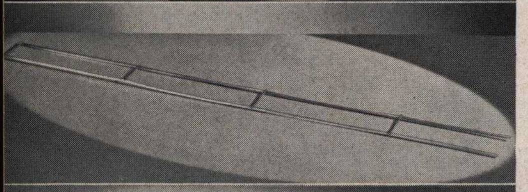
ACCESSORIES FOR USE IN INSTALLING INSULUX GLASS BLOCK

INSULUX ASPHALT EMULSION—This emulsion should be applied on the sills of all panels and allowed to dry before the first mortar bed is laid. Insulux Asphalt Emulsion is a specially processed, heavy bodied asphalt dispersed in water to give it a smooth plastic consistency. When dried by evaporation, it forms a flexible, rubber-like film which acts as a bond breaker between the sill and the panel. It is available in 5 gallon, 1 gallon and 1 quart cans.

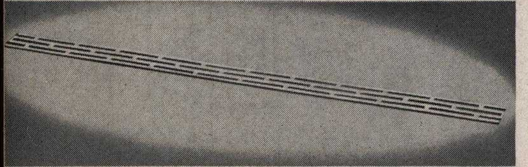
INSULUX CALKING COMPOUND—This mastic is used for waterproofing the expansion joints around the perimeter of glass block panels and should be applied to a depth of at least 3⁄8″.

In chase construction a base of oakum or similar material should first be rammed between the face of the block and sides of the chase for panel support.

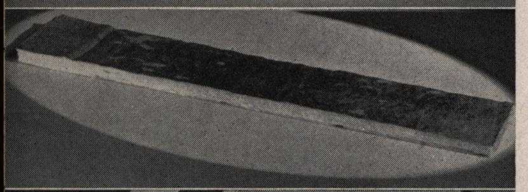
Insulux mastic calking compound is a gun grade non-hardening water-proof material and is available in tubes, 1⁄2 gallon, 1 gallon and 5 gallon cans.



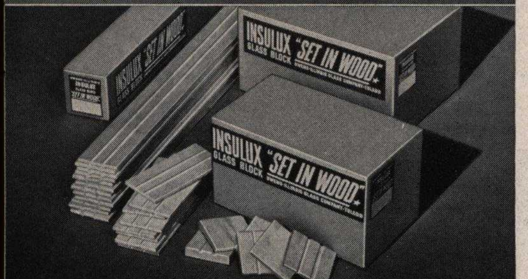
INSULUX WALL TIES—Ties are used for reinforcing glass block panels against wind pressure and are imbedded in the horizontal mortar joints in accordance with our specifications and local building codes. The tie consists of two No. 9 wires spaced 2″ apart with No. 14 gauge cross wires, and are supplied in 8′ lengths.



INSULUX WALL ANCHORS—For the support of small panels when chase construction is impractical. Made of 20 gauge slotted steel, galvanized after forming, 13⁄4″ wide by 2′ long. The anchors are imbedded in or fastened to adjacent construction and extend into mortar joints of panels.



INSULUX EXPANSION STRIPS—These strips are installed in expansion joints at the head and jambs to protect the panel from direct contact with the building. They may be held in place with asphalt emulsion during construction. The strips are 41⁄8″ x 1⁄2″ x 25″ and made of a resilient bonded material.


INSULUX GLASS BLOCK "SET IN WOOD"
INSULUX GLASS BLOCK "SET IN WOOD"

"SET-IN-WOOD" STRIPS—These prefabricated wood strips are available for 8″ and 12″ blocks only. Precision milled with special ribs that fit into the corrugated edges of Insulux Glass Block, they take the place of the usual mortar joint for interior partitions. Horizontal strips are available in 6, 8 and 10 ft. lengths and come packed 12 to a carton. Vertical strips are 8″ and 12″ long and come packed 144 to a carton. Wood wedges are packed 72 pair to a carton.

Write for literature on the use of Insulux Glass Block in New Construction. No obligation, of course.

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